

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (Currently amended) A method performed by an automatic database
2 diagnostic monitoring (ADDM) device for diagnosing performance in a database, the method
3 comprising:
4 receiving at the ADDM device ~~information indicative of a set of rules classifying~~
5 operations performed in a database classified as one or more performance problems through a set
6 of rules, each rule in the set of rules defining one or more symptoms and at least one root
7 performance problem;
8 determining with the ADDM device one or more values that quantify an impact
9 for the one or more performance problem based on the set of rules and performance of operations
10 in the database;
11 determining a first performance problem with the ADDM device from the one or
12 more performance problems based on a matching between the one or more values for the one or
13 more performance problems and the one or more symptoms defined by at least one rule in the set
14 of rules; and
15 generating information with the ADDM device indicative of a recommendation
16 for a solution for the first performance problem based on the set of rules.

1 2. (Currently amended) The computer-implemented method of claim 1,
2 wherein ~~the set of rules for the one or more performance problems include symptoms and root~~
3 ~~problems, wherein symptoms are analyzed to determine a root performance problem~~ determining
4 the first performance problem with the ADDM device from the one or more performance
5 problems based on the matching comprises automatically analyzing the one or more symptoms
6 defined by the at least one rule with the ADDM device based on the one or more values to

7 identify the root performance problem defined by the at least one rule as the first performance
8 problem.

1 3. (Previously presented) The method of claim 2, wherein symptoms defined
2 by the set of rules are classified from a first set of performance problems to a second set of
3 performance problems.

1 4. (Currently amended) The method of claim 2, wherein generating the
2 information with the ADDM device indicative of the recommendation for a solution comprises
3 generating the information to include symptoms that were analyzed by the ADDM device to
4 determine the root performance problem.

5. (Canceled)

1 6. (Previously presented) The method of claim 1, wherein the one or more
2 values comprising time values that quantify the impact of the one or more performance
3 problems.

1 7. (Currently amended) The method of claim 6, further comprising
2 determining the time values with the ADDM device using at least one of a time model that
3 classifies operations in the database as wasteful operations using a first set of rules associated
4 with the time model and a wait model that classifies operations in the database waiting for
5 completion of one or more external events using a second set of rules associated with the wait
6 model.

1 8. (Currently amended) The method of claim 1, wherein generating the
2 information with the ADDM device indicative of the recommendation for the solution
3 comprises:
4 determining with the ADDM device one or more operations in the database that
5 caused the first performance problem; and

6 analyzing stored information with the ADDM device for the one or more
7 operations absent direct user intervention to generate the information with the ADDM device
8 indicative of the recommendation for the solution.

1 9. (Previously presented) The method of claim 8, wherein the stored
2 information comprises a snapshot of information for the one or more operations.

1 10. (Currently amended) The method of claim 1 further comprising
2 automatically determining with the ADDM device the recommendation for the solution in
3 response to determining the first performance problem with the ADDM device.

1 11. (Currently amended) The method of claim 1, further comprising:
2 determining a recommendation rule with the ADDM device from a set of
3 recommendation rules associated with the first performance problem, each recommendation rule
4 in the set of recommendation rules indicative of at least one recommendation for a solution for
5 the first performance problem;

6 determining with the ADDM device one or more operations that caused the first
7 performance problem;

8 applying the recommendation rule using the ADDM device to the one or more
9 operations; and

10 determining a recommendation with the ADDM device for the solution in
11 response to a determination at the ADDM device that the one or more operations satisfy the
12 recommendation rule.

1 12. (Currently amended) The method of claim 1, further comprising
2 outputting the recommendation for the solution using the ADDM device.

1 13. (Currently amended) The method of claim 1, further comprising
2 generating information with the ADDM device specifying one or more operations performed in
3 the database that are not causing performance problems.

1 14. (Currently amended) A computer-implemented method for diagnosing
2 one or more performance problems in a database, the method comprising:
3 receiving information at a database monitoring device ~~from a user specifying a set~~
4 ~~of rules~~ classifying operations performed in a database into one or more performance problems
5 through a set of rules, each rule in the set of rules defining one or more symptoms and at least
6 one root performance problem;
7 collecting information using the database monitoring device that quantifies an
8 impact for one or more operations performed in the database based on the set of rules;
9 associating the information for one or more operations with the one or more
10 performance problems classified by the set of rules using the database monitoring device;
11 analyzing the associated information for the one or more performance problems
12 with the database monitoring device based on the set of rules classifying operations performed in
13 the database into the one or more performance problems to determine a first performance
14 problem with the database monitoring device from the one or more performance problems; and
15 generating information with the database monitoring device indicative of a
16 recommendation for a solution for the first performance problem.

1 15. (Currently amended) The computer-implemented method of claim 14,
2 wherein collecting information comprises:
3 determining with the database monitoring device when one or more operations
4 that are associated with the one or more performance problems are being performed; and
5 timing the one or more operations that are associated with the one or more
6 performance problems with the database monitoring device to generate one or more time values
7 for the one or more operations using the database monitoring device that quantify the impact of
8 the one or more operations.

1 16. (Currently amended) The computer-implemented method of claim 15,
2 wherein the one or more operations that are associated with the one or more performance
3 problems are determined with the database monitoring device based on at least one of a time

4 model that classifies a first set of operations in the database as wasteful operations using a first
5 set of rules associated with the time model and a wait model that classifies a second set of
6 operations in the database waiting for completion of one or more external events using a second
7 set of rules associated with the wait model.

1 17. (Currently amended) The computer-implemented method of claim 14,
2 wherein analyzing the associated information for the one or more performance problems with the
3 database monitoring device based on the set of rules classifying operations performed in the
4 database into the one or more performance problems to determine the first performance problem
5 from the one or more performance problems comprises automatically analyzing the one or more
6 symptoms defined by at least one rule in the set of rules with the database monitoring device to
7 identify the root performance problem defined by the at least one rule using the database
8 monitoring device as the first performance problem.

1 18. (Currently amended) The computer-implemented method of claim 17,
2 wherein generating the information with the database monitoring device indicative of the
3 recommendation for a solution comprises generating the information with the database
4 monitoring device to include the one or more symptoms that were analyzed to determine the root
5 performance problem.

19. (Canceled)

1 20. (Currently amended) The computer-implemented method of claim 14,
2 wherein generating the information with the database monitoring device indicative of the
3 recommendation for the solution comprises:
4 determining at the database monitoring device one or more operations in the
5 database that caused the first performance problem; and
6 reviewing stored information for the one or more operations at the database
7 monitoring device to generate the information with the database monitoring device indicative of
8 the recommendation for the solution.

1 21. (Currently amended) The computer-implemented method of claim 20,
2 wherein the stored information comprises a snapshot of information for the one or more
3 operations.

1 22. (Currently amended) The computer-implemented method of claim 14,
2 further comprising automatically determining with the database monitoring device the
3 recommendation for the solution in response to determining the first performance problem.

1 23. (Currently amended) The computer-implemented method of claim 14,
2 further comprising:

3 determining with the database monitoring device a recommendation rule from a
4 set of recommendation rules associated with the first performance problem, each
5 recommendation rule in the set of recommendation rules indicative of at least one
6 recommendation for a solution to the first performance problem;

7 determining with the database monitoring device one or more operations that
8 caused the first performance problem;

9 applying the recommendation rule with the database monitoring device to the one
10 or more operations; and

11 determining a recommendation for the solution with the database monitoring
12 device in response to a determination at the database monitoring device that the one or more
13 operations satisfy the recommendation rule.

1 24. (Currently amended) The computer-implemented method of claim 14,
2 further comprising outputting the recommendation for the solution using the database monitoring
3 device.

1 25. (Currently amended) The computer-implemented method of claim 14,
2 further comprising generating information with the database monitoring device specifying one or
3 more operations performed in the database that are not causing performance problems.

1 26. (Currently amended) A computer-readable medium configured to store a
2 set of code module which when executed by a processor of a computer system become
3 operational with the processor for diagnosing performance in a database, the computer-readable
4 medium comprising:

5 code for receiving ~~information indicative of a set of rules classifying~~ operations
6 performed in a database classified as one or more performance problems through a set of rules,
7 each rule in the set of rules defining one or more symptoms and at least one root performance
8 problem;

9 code for determining one or more values that quantify an impact for the one or
10 more performance problems based on the set of rules and performance of operations in the
11 database;

12 code for determining a first performance problem from the one or more
13 performance problems based on a matching between the one or more values for the one or more
14 performance problems and the one or more symptoms defined by at least one rule in the set of
15 rules; and

16 code for generating information indicative of a recommendation for a solution for
17 the performance problem.

1 27. (Previously presented) The computer-readable medium of claim 26,
2 further comprising code for automatically determining the recommendation for the solution in
3 response to determining the first performance problem.

1 28. (Previously presented) The computer-readable medium of claim 26,
2 further comprising:

3 code for determining a recommendation rule from a set of recommendation rules
4 associated with the first performance problem, each recommendation rule in the set of
5 recommendation rules indicative of at least one recommendation for a solution for the first
6 performance problem;

7 code for determining one or more operations that caused the first performance
8 problem;
9 code for applying the recommendation rule to the one or more operations; and
10 code for determining a recommendation for the solution in response to a
11 determination that the one or more operations satisfy the recommendation rule.

1 29. (Currently amended) A computer-readable medium configured to store a
2 set of code modules which when executed by a processor of a computer system become
3 operational with the processor for diagnosing one or more performance problems in a database,
4 the computer-readable medium comprising:

5 code for receiving information ~~from a user specifying a set of rules~~ classifying
6 operations performed in a database into one or more performance problems through a set of
7 rules, each rule in the set of rules defining one or more symptoms and at least one root
8 performance problem;

9 code for collecting information that quantifies an impact for one or more
10 operations performed in the database based on the set of rules;

11 code for associating the information for one or more operations with the one or
12 more performance problems classified by the set of rules;

13 code for analyzing the associated information for the one or more performance
14 problems based on the set of rules classifying operations performed in the database into the one
15 or more performance problems to determine a performance problem from the one or more
16 performance problems; and

17 code for generating information indicative of a recommendation for a solution for
18 the performance problem.

1 30. (Previously presented) The computer-readable medium of claim 29,
2 wherein code for collecting information comprises:

3 code for determining when one or more operations that are associated with the
4 one or more performance problems are being performed; and

5 code for timing the one or more operations that are associated with the one or
6 more performance problems to generate one or more time values for the operations that quantify
7 the impact of the operations.

1 31. (Previously presented) The computer-readable medium of claim 29,
2 wherein code for generating the information indicative of the recommendation for the solution
3 comprises:

4 code for determining one or more operations in the database that caused the
5 performance problem; and

6 code for reviewing stored information for the one or more operations absent direct
7 user intervention to generate the information indicative of the recommendation for the solution.

1 32. (Previously presented) The computer-readable medium of claim 29,
2 further comprising code for automatically determining the recommendation for the solution in
3 response to determining the performance problem.

1 33. (Previously presented) The computer-readable medium of claim 29,
2 further comprising:

3 code for determining a recommendation rule from a set of recommendation rules
4 associated with the determined performance problem, each recommendation rule in the set of
5 recommendation rules indicative of at least one recommendation for a solution to the determined
6 performance problem;

7 code for determining one or more operations that caused the performance
8 problem;

9 code for applying the recommendation rule to the one or more operations; and

10 code for determining a recommendation for the solution in response to a
11 determination that the one or more operations satisfy the recommendation rule.